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at least one dielectric layer disposed between the elongated electrical conductor and the first electrically conductive layer; and  
an electrically conductive coil, a first end of the coil being electrically coupled to the elongated electrical conductor and a second end of the coil being electrically coupled to the first electrically conductive layer, wherein a circuit comprising the elongated electrical conductor, the electrically conductive layer, the dielectric layer and the coil forms an impedance-matching circuit.

The Examiner asserts that Atalar discloses such a device and makes some specific references in Atalar to limitations in the claim, but for other limitations, points generally to some lengthy passages in Atalar. The applicant finds it unclear from the office action which elements of Atalar the Examiner is asserting disclose the specific limitations of claim 1.

The first limitation of claim 1 requires "an elongated electrical conductor". The Examiner asserts that element 2, shown in Atalar at Figure 1, discloses an elongated electrical conductor. Atalar describes element 2 as a coil consisting of coil elements 4 and 6.

The second limitation of claim 1 requires "a first electrically conductive layer disposed coaxially to the elongated electrical conductor". The Examiner asserts that element 4, shown in Atalar at Figure 1, is the first electrically conductive layer. The claim requires that the first electrically conductive layer be disposed coaxially to the elongated electrical conductor. The Examiner asserts that element 2 is the elongated electrical conductor. Element 4 is not a layer that is disposed coaxially to the element 2. In fact, element 4 has no such relationship to element 2; element 4 is one of several elements that together form the "coil 2". That is, coil 2 is not a separate element from element 4; element 4 is a subset of element 2. In any event, element 4 is not layer that is coaxially disposed to element 2, and the limitation is not met by Atalar.

The third limitation requires "at least one dielectric layer disposed between the elongated electrical conductor and the first electrically conductive layer". The Examiner does not reference a particular element in Atalar that satisfies the third limitation. If the elongated electrical

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conductor is element 2 and the first electrically conductive layer is element 4, as asserted by the Examiner, there simply is no dielectric layer disposed between element 4 and element 2. It is hard to conceive how such a layer could exist, since element 4 is merely a component of a number of elements that together comprise coil 2. In any event, there is no such dielectric layer disclosed in Atalar. The limitation is not satisfied by Atalar.

The fourth limitation requires "an electrically conductive coil, a first end of the coil being electrically coupled to the elongated electrical conductor and a second end of the coil being electrically coupled to the first electrically conductive layer, wherein a circuit comprising the elongated electrical conductor, the electrically conductive layer, the dielectric layer and the coil forms an impedance-matching circuit". The Examiner does not reference a particular element in Atalar that discloses the electrically conductive coil recited in the fourth limitation, but does reference element 12 of Atalar as disclosing an impedance matching circuit. Element 12 of Atalar, shown in Figures 1 and 1a, is described as a tuning and matching circuit. However, there is no electrically conductive coil included in the circuit that is electrically coupled to an elongated electrical conductor and to the first electrically conductive layer. That is, if the elongated electrical conductor is element 2 and the first electrically conductive layer is element 4, as asserted by the Examiner, then to satisfy the limitation, there must be an electrically conductive coil disclosed that has a first end coupled to element 2 and a second end coupled to element 4. There is no such electrically conductive coil disclosed in Atalar. The limitation is not satisfied.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" *Verdegaal Bros. v. Union Oil Col. Of California*, 814 F.2d 628 (see also MPEP at 2131). Atalar clearly does not disclose each and every element of claim 1, for at least the reasons set forth above. Accordingly, claim 1 is allowable over Atalar.

Claims 6-9 depend from claim 1 and are therefore allowable for at least the same reasons.

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### Claim 2

Claim 2 is an independent claim that recites an elongated intravascular device adapted to be advanced through a vessel of a subject. The device includes all of the limitations of claim 1, in addition to a further limitation reciting an electrically conductive shield layer disposed coaxially to the elongated electrical conductor. Since Atalar fails to disclose the limitations of claim 1 (all of which limitations are included in claim 2), Atalar also fails to disclose the limitations of claim 2, which is in condition for allowance.

### Claims 22-26

Claim 22 recites an elongated intravascular device including the following limitations:

- an elongated electrical conductor;
- a first dielectric layer disposed on top of the elongated electrical conductor;
- an electrically conductive primary shield layer disposed on top of the first dielectric layer;
- a second dielectric layer disposed on top of the primary shield layer;
- a secondary shield layer comprised of an electrically conductive polymer disposed on top of the second dielectric layer;
- a first electrical short coupling the primary shield layer to the secondary shield layer at a first longitudinal position along the elongated electrical conductor;
- a second electrical short coupling the primary shield layer to the secondary shield layer at a second longitudinal position, distal of the first longitudinal position, along the elongated electrical conductor;
- and
- a non-electrically-conductive gap in the secondary shield layer at a longitudinal position just proximal of the second electrical short.

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The Examiner provides only a few specific references to elements in Atalar that disclose specific limitations in claim 22, making it difficult for the applicant to respond to the rejection, as it is unclear to the applicant what in Atalar the Examiner believes discloses the above limitations. The Examiner has indicated, as was discussed in reference to claim 1, that the "elongated electrical conductor" included in the first limitation is disclosed by element 2 of Atalar. As mentioned, element 2 of Atalar is described as a "coil".

The second limitation requires a "first dielectric layer disposed on top of the elongated electrical conductor". The Examiner does not provide a reference to a specific element in Atalar that discloses the first dielectric layer. If the elongated electrical conductor is element 2 in Atalar, as asserted by the Examiner, then the first dielectric layer must be a layer disposed on top of element 2. There is no such layer disclosed in Atalar, and the limitation is not satisfied.

The third limitation requires "an electrically conductive primary shield layer disposed on top of the first dielectric layer". As no first dielectric layer has been indicated by the Examiner, it is difficult for the applicant to respond to a rejection that requires a primary shield layer to be disposed on top of the first dielectric layer. In any event, since the Examiner asserts that element 2 is the elongated electrical conductor, the first dielectric layer must be disposed on top of element 2 and a primary shield layer disposed on top thereof. There are no such layers disclosed in Atalar, and the limitation is not satisfied.

The fourth limitation requires "a second dielectric layer disposed on top of the primary shield layer". Again, the Examiner has not made reference to a specific element in Atalar that discloses the second dielectric layer. The second dielectric layer is disposed on top of the primary shield layer. None of these layers are disclosed in Atalar, and the limitation is not satisfied.

The fifth limitation requires "a secondary shield layer comprised of an electrically conductive polymer disposed on top of the second dielectric layer".

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Again, the Examiner has not pointed out a specific element in Atalar that discloses a secondary shield layer that is made of an electrically conductive polymer, which is disposed on top of the second dielectric layers. The coil 2 shown in Atalar is not formed from layers, and again, the limitation simply is not met.

The sixth limitation requires "a first electrical short coupling the primary shield layer to the secondary shield layer at a first longitudinal position along the elongated electrical conductor". The Examiner makes no reference whatsoever, neither specifically nor generally, to anywhere in Atalar that discloses such an electrical short coupling the primary shield layer to the secondary shield layer. The limitation is not met by Atalar.

The seventh limitation requires "a second electrical short coupling the primary shield layer to the secondary shield layer at a second longitudinal position, distal of the first longitudinal position, along the elongated electrical conductor". Again, the Examiner makes no reference whatsoever, neither specifically nor generally, to anywhere in Atalar that discloses such a second electrical short coupling the primary shield layer to the secondary shield layer. The limitation is not met by Atalar.

The eight limitation requires "a non-electrically-conductive gap in the secondary shield layer at a longitudinal position just proximal of the second electrical short". Again, the Examiner makes no reference whatsoever, neither specifically nor generally, to anywhere in Atalar that discloses such a non-electrically conductive gap. The limitation is not met by Atalar.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" *Verdegaal Bros. v. Union Oil Col. Of California*, 814 F.2d 628 (see also MPEP at 2131). Atalar clearly does not disclose each and every element of claim 22, for at least the reasons set forth above. Accordingly, claim 22 is allowable over Atalar.

Claims 23-26 depend from claim 22 and are therefore allowable for at least the same reasons.

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Claims 27-29

Claim 27 recites an elongated intravascular device and includes the following limitations:

- an elongated electrical conductor;
- a dielectric layer disposed on top of the elongated electrical conductor;
- a shield layer comprised of an electrically conductive polymer disposed on top of the dielectric layer;
- a first electrical short coupling the elongated electrical conductor to the shield layer at a first longitudinal position along the elongated electrical conductor;
- a second electrical short coupling the elongated electrical conductor to the shield layer at a second longitudinal position, distal of the first longitudinal position, along the elongated electrical conductor;
- and
- a non-electrically-conductive gap in the shield layer at a longitudinal position just proximal of the second electrical short.

As stated above in reference to claim 22, the coil 2 described in Atalar is not formed from layers. There is no dielectric layer or shield layer. Further, there are no first and second electrical shorts coupling the elongated electrical conductor to the shield layer. Finally, Atalar does not disclose a non-electrically-conductive gap in the shield layer at a longitudinal position just proximal of the second electrical short. The limitations are not disclosed by Atalar, and claim 27 is in condition for allowance. Claims 28 and 29 depend from claim 27 and are therefore allowable for at least the same reasons.

Claims 30-32

Claim 30 recites an intravascular device including the following limitations:

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an elongate catheter having an elongate shaft with a proximal end and a distal end;  
an antenna formed of conductive material electroplated on a distal region of the elongate shaft; and  
a first elongate conductor and a second elongate conductor, the first and second elongate conductors extending from a proximal region of the elongate member to a distal region thereof and at least one of the first and second elongate conductors being electrically connected to the antenna.

The Examiner makes no reference whatsoever, neither specifically nor generally, to anything in Atalar that discloses the limitations of claim 30. The Examiner makes no mention of Atalar disclosing an antenna formed of conductive material electroplated on a distal region of an elongate shaft. Further, the Examiner makes no mention of Atalar disclosing the first and second elongate conductors. It is impossible for the applicant to respond to the rejection when the applicant has no idea what elements of Atalar the Examiner believes disclose the invention recited in claim 30. The applicant therefore respectfully submits the rejection is improper, and claims 30-32 are in condition for allowance.

Claims 33 and 36-38

Claim 33 recites an intravascular device including the following limitations:

an elongate member; and  
a braid disposed on at least a portion of the elongate member, the braid including at least two braid strands wherein at least one of the braid strands forms a part of an electrical circuit including a transmission line and an antenna;  
where, a first of the braid strands is formed of electrically conductive material having a portion thereof exposed to form the antenna.

The Examiner makes no reference whatsoever, neither specifically nor generally, to anything in Atalar that discloses the limitations of claim 33. For

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example, the Examiner makes no mention of Atalar disclosing a braid disposed on at least a portion of the elongate member. It is impossible for the applicant to respond to the rejection when the applicant has no idea what elements of Atalar the Examiner believes disclose the invention recited in claim 33. The applicant therefore respectfully submits the rejection is improper, and claim 33 and claims 36-38 which depend therefrom are in condition for allowance.

#### Claim 34

Claim 34 recites an intravascular device including the following limitations:

an elongate member; and

a braid disposed on at least a portion of the elongate member, the braid including at least two braid strands wherein at least one of the braid strands forms a part of an electrical circuit including a transmission line and an antenna;

wherein the two braid strands comprise electrically conductive material electrically insulated from one another and are each connected to the antenna to form the transmission line.

The Examiner makes no reference whatsoever, neither specifically nor generally, to anything in Atalar that discloses the limitations of claim 34. For example, the Examiner makes no mention of Atalar disclosing a braid disposed on at least a portion of the elongate member. It is impossible for the applicant to respond to the rejection when the applicant has no idea what elements of Atalar the Examiner believes disclose the invention recited in claim 34. The applicant therefore respectfully submits the rejection is improper, and claim 34 is in condition for allowance.

## **II. 103 Rejections**

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atalar. Claims 3-5 depend from claim 2. As stated above, claim 2 is allowable over Atalar, as Atalar fails to disclose the limitations of claim 2. Accordingly, dependent claims 3-5 are allowable for at least the same reasons.



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### III. Allowed Claims

The Examiner has indicated that claims 10-14 and 16-21 are allowed. The applicant appreciates the Examiner's allowance of these claims.

No fees are believed due, however, please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: \_\_\_\_\_

*Dec 5/05*

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